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Docket No. 4649-4014US1

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Serial No.: 10/692,191 Confirmation No.: 8424  
Applicant(s): CIFRA, ET AL. Group Art Unit: 1614  
Examiner: Leslie A. Royds  
Filed: October 22, 2003  
Customer No.: 27123  
For: MODULATION OF ZINC LEVELS TO IMPROVE TISSUE PROPERTIES

**CERTIFICATE OF MAILING (37 C.F.R. §1.8(A))**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I hereby certify that the attached:

1. Information Disclosure Statement
2. Form PTO 1449; Listing 9 US Patents and 41 "Other Documents"
3. Copies of 41 "Other Documents" Listed
4. Return Postcard

along with any paper(s) referred to as being attached or enclosed and this Certificate of Mailing are being deposited with the United States Postal Service on date shown below with sufficient postage as first-class mail in an envelope addressed to the: Mail Stop Amendment Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Respectfully submitted,  
MORGAN & FINNEGAN, L.L.P.

Dated: August 31, 2006

By:

*Wan Chieh Lee*

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Group Art Unit: 1614

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For: MODULATION OF ZINC LEVELS TO IMPROVE TISSUE PROPERTIES  
**INFORMATION DISCLOSURE STATEMENT**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Information Disclosure Statement is filed in accordance with 37 C.F.R. §§1.56, 1.97 and 1.98. The items listed on Form PTO-1449, a copy of which is enclosed, are made of record to assist the Patent and Trademark Office in its examination of this application. The Examiner is respectfully requested to fully consider the items and to independently ascertain their teaching.

1. ☐ For each of the following items listed on the enclosed copy of Form PTO-1449 that is not in the English language, an English language translation of that item or a portion thereof or a concise explanation of the relevance of that item is enclosed:
2. ☐ For each of the following items listed on the enclosed copy of Form PTO-1449 that is not in the English language, a concise explanation of the relevance of that item is incorporated in the specification of the above-identified application.
3. ☐ Any copy of the items listed on the enclosed copy of Form PTO-1449 that is not enclosed with this Information Disclosure Statement was previously cited by or submitted to the Patent and Trademark Office in application Serial No. \_\_\_\_\_, filed \_\_\_\_\_.
4. ☐ No fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with:  
☐ 37 C.F.R. §1.97(b)(1), within three months of the filing date of a national application other than a CPA; or

- ☐ 37 C.F.R. §1.97(b)(2), within three months of the date of entry into the national stage as set forth in §1.491 in an international application; or
- ☐ 37 C.F.R. §1.97(b)(3), before the mailing date of a first Office action on the merits; or
- ☐ 37 C.F.R. §1.97(b)(4) before the mailing date of a first office action after the filing of an RCE under §1.114.
5. ☐ No fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(c), after the period specified in paragraph 4 above but before the mailing date of a final action or a Notice of Allowance (where there has been no prior final action), and is accompanied by one of the certifications pursuant to 37 C.F.R. §1.97(e) set forth in paragraph 9 below.
6. ☒ A fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(c), after the period specified in paragraph 4 above but before the mailing date of a final action or a notice of allowance (where there has been no prior final action):
- ☐ A check in the amount of \$180.00 is enclosed in payment of the fee.
- ☒ Charge the fee to Deposit Account No. 13-4500, Order No. 4649-4014US1. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.
7. ☐ A fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(d), after the mailing date of a final action or a notice of allowance, whichever comes first, but before payment of the issue fee, and is accompanied by:
- a. ☐ one of the certifications pursuant to 37 C.F.R. §1.97(e) set forth in paragraph 9 below; and
- b. ☐ the fee due under 37 C.F.R. §1.17(p) which is paid as set forth in paragraph 11 below.
8. ☐ This Information Disclosure Statement is being filed in compliance with:
- a. ☐ 37 C.F.R. §1.313(b)(3) or §1.313(c)(1), after the issue fee has been paid and information cited in this Information Disclosure Statement may render at least one claim unpatentable and is accompanied by the attached Petition To Withdraw Application From Issue and fee pursuant to 37 C.F.R. §1.17(h);
- b. ☐ 37 C.F.R. §1.313(c)(2) or §1.313(c)(3), after the issue fee has been paid and information cited in this Information Disclosure Statement is to be considered in a Request for Continued Examination (RCE) or a Continuation application upon abandonment of the instant application and is accompanied by the attached Petition To Withdraw Application From Issue and fee pursuant to 37 C.F.R. §1.17(h).

- c. ☐ The fee due under 37 C.F.R. §§1.17(h) is paid as set forth in paragraph 11 below.
9. ☐ I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.
- ☐ I hereby certify that no item of information in the Information Disclosure Statement filed herewith was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.
10. ☐ This document is accompanied by ☐ a Search Report ☐ Communication which was cited in a corresponding ☒ PCT or ☐ Foreign counterpart application
11. ☐ A check in the amount of \$ \_\_\_\_\_ is enclosed in payment of the fees due under 37 C.F.R. §§1.17(h) and 1.17(p).
- ☒ Charge the fees due under 37 C.F.R. §§1.17(h) and 1.17(p) to Deposit Account No. 13-4500, Order No. 4649-4014US1. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.
- ☒ The Commissioner is hereby authorized to charge any additional fees which may be required for this Information Disclosure Statement, or credit any overpayment to Deposit Account No. 13-4500, Order No. 4649-4014US1. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

Respectfully submitted,  
MORGAN & FINNEGAN, L.L.P.

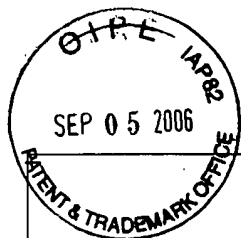
Dated: August 31, 2006

By: 

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## FORM PTO-1449

## INFORMATION DISCLOSURE CITATION

Attorney Docket:  
4649-4014 US1Serial No.:  
10/692,191Applicant:  
CIFRA, ET AL.Filing Date:  
October 22, 2003Group Art Unit:  
1614

## U.S. PATENT DOCUMENTS

Examiner Initial	Patent Number	Publication Date	Name	Class	Sub-Class	Filing Date
	4,938,969	July 3, 1999	Schinitsky et al.			
	5,401,730	March 28, 1995	Sauvage et al.			
	5,554,647	Sept. 10, 1996	Perricone			
	5,972,999	Oct. 16, 1999	Murad			
	6,071,543	June 6, 2000	Thornfeldt			
	6,113,636	Sept. 5, 2000	Ogle			
	6,190,407	Feb. 20, 2001	Ogle et al.			
	6,267,782	July 31, 2001	Ogle et al.			
	6,322,588	Nov. 27, 2001	Ogle et al.			

## FOREIGN PATENT DOCUMENTS

Examiner Initial	Patent Number	Publication Date	Country	Class	Sub-Class	Translation
						<input type="checkbox"/> Yes <input type="checkbox"/> No
						<input type="checkbox"/> Yes <input type="checkbox"/> No
						<input type="checkbox"/> Yes <input type="checkbox"/> No
						<input type="checkbox"/> Yes <input type="checkbox"/> No

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Papers, etc.)

	Tang et al., "Zinc Has an Insulin-Like Effect on Glucose Transport Mediated by Phosphoinositol-3-Kinase and Akt in 3T3-L1 Fibroblasts and Adipocytes," <i>J. Nutr</i> 131: 1414-1420 (2001)
	Wu et al., "Activation of the EGF receptor signaling pathway in human airway epithelial cells exposed to metals," <i>Am J. Physiol</i> 277: L924-L931 (1999)
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	Shisheva et al., "Insulinlike effects of zinc ion in vitro and in vivo: preferential effects on desensitized adipocytes and induction of normoglycemia in streptozocin-induced rats," <i>Diabetes</i> 41(8): 982-988 (August 1992)

Examiner	Date Considered
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP §609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.	

<b>FORM PTO-1449</b>  <b>INFORMATION DISCLOSURE CITATION</b>	Attorney Docket: 4649-4014 US1	Serial No.: 10/692,191
	Applicant: CIFRA, ET AL.	
	Filing Date: October 22, 2003	Group Art Unit: 1614

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Papers, etc.)**

	May et al., "The Mechanism of the Insulin-like Effects of Ionic Zinc," <i>J Biol Chem</i> 257(8): 4362-4368 (April 25, 1982)
	Kiss et al., "Bombesin and zinc enhance the synergistic mitogenic effects of insulin and phosphocholine by a MAP kinase-dependent mechanism in Swiss 3T3 cells," <i>FEBS Lett</i> 415(1): 71-74 (1997)
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	Gomot et al., "Effect of Acute Zinc Deficiency on Insulin Receptor Binding in Rat Adipocytes," <i>Biol Trace Elem Res</i> 32: 331-335 (1992)
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	Kremerskothen et al., "Determination of phosphotyrosine phosphatase (PTPase) activity in normal and transformed cells" <i>Mol Cell Biochem</i> 125: 1-9 (1993)
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	Forbes et al., "Zinc Induces Specific Association of PKC with Membrane Cytoskeleton," <i>Biochem Int</i> 22: 741-748 (November 1990)
	Forbes et al., "Interaction between protein kinase C and regulatory ligand is enhanced by a chelatable pool of cellular zinc," <i>Biochem Biophys Acta</i> 1053: 113-117 (1990)
	Quest et al., "The Regulatory Domain of Protein Kinase C Coordinates Four Atoms of Zinc," <i>J Biol Chem</i> 267:10193-10197 (May 15, 1992).
	Lynch et al., "Zinc stimulates the activity of the insulin- and nutrient-regulated protein kinase mTOR," <i>Am J Physiol Endocrinol Metab</i> 281(1): E25-E34 (2001)
	Patti et al., "Bidirectional Modulation of Insulin Action by Amino Acids" <i>J Clin Invest</i> 101(7): 1519-1529 (April 1998).
	Martin et al., "Regulation of Ribosomal S6 Kinase 2 by Effectors of the Phosphoinositide 3-Kinase Pathway," <i>J Biol Chem</i> 276(11): 7884-7791 (March 16, 2001)
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	Taipale et al., "Release of Transforming Growth Factor- $\beta$ 1 from the Pericellular Matrix of Cultured Fibroblasts and Fibrosarcoma Cells by Plasmin and Thrombin," <i>J Biol Chem</i> 267: 25378-25384 (December 15, 1992)
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	Massague J., "How Cells Read TGF- $\beta$ Signals," <i>Nat Rev Mol Cell Biol</i> 1(3): 169-178 (December 2000)

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